Curriculum Vitae of Prof. Giulio Chiribella

Professor and Associate Department Head (Research),
Department of Computer Science, The University of Hong Kong

Director of QICI Quantum Information and Computation Initiative,
Department of Computer Science, The University of Hong Kong

By-Courtesy Professor, Department of Physics, The University of Hong Kong

Visiting Professor, Department of Computer Science, University of Oxford

Visiting Fellow, St Hilda's College, University of Oxford

Visiting Fellow, Perimeter Institute for Theoretical Physics

Elected Member of the Hong Kong Young Academy of Sciences

Fellow of the National Virgilian Academy of Sciences, Letters, and Arts, Mantova, Italy.

General information

- Full Name: Giulio Chiribella
- Nationality: Italian
- Primary Affiliation: Department of Computer Science, HKU
- Address: Rm 304 Chow Yei Ching Building, The University of Hong Kong
  Pokfulam Road, Hong Kong.
- E-mail: firstname @cs. hku. hk
- Website: http://qici.weebly.com/

Research interests

My research areas are Quantum Information Theory and Quantum Foundations.
I am interested in how the fundamental laws of quantum mechanics can be turned into working principles for future information technologies, and, at the same time, I am fascinated by the implications of information theory for the foundations of physics.
The interplay between applications and foundations has led me to study quantum causal networks, quantum clocks and gyroscopes, quantum learning machines, and quantum computations with an indefinite causal order. On the fundamental side, I am engaged in a research program searching for a new understanding of quantum physics based on information theory.

Academic Career

- Since 10.2018
  Professor at The University of Hong Kong.
  Associate Department Head (Research), Department of Computer Science.
  Director, QICI Quantum Information and Computation Initiative.
  Group Leader, Foundations of Computer Science Research Group.
- Since 2018, Visiting Professor, University of Oxford
- Since 2018, Visiting Fellow, St Hilda's College, University of Oxford
- Since 2012, Visiting Fellow of Perimeter Institute for Theoretical Physics
- 10.2017-09.2018
  Professor at University of Oxford.
  Supernumerary Fellow of St Hilda's College.
- 9.2016-08.2018
  Member of CIFAR Program in Quantum Information Science.
- 8.2015-09.2017
  Associate Professor at The University of Hong Kong.
- 6.2012-7.2015
  Associate Professor at Tsinghua University.
- 2.2011–6.2012
  Senior Postdoctoral Fellow at Perimeter Institute for Theoretical Physics.
- 12.2009–1.2011
  Postdoctoral Fellow at Perimeter Institute for Theoretical Physics.
- 12.2009-6.2012
  Affiliate Member of IQC Institute for Quantum Computing.
- 12.2006–11.2009
  Postdoctoral Fellow at Quantum Information Theory Group, University of Pavia.

Past Visiting Positions

- February 22-March 16, 2014, Visiting Scientist at Simons Institute for the Theory of Computing, University of California, Berkeley.
- August 2007, Visiting Scholar at the University of Sydney, School of Physics.

Education

- 12.01.2007 PhD Degree in Physics.
  Supervisor: Prof. G. M. D'Ariano.
- 11.2003–11.2006
  Graduate Course in Physics at the University of Pavia.
- 11.2003–11.2006
  SAFI Advanced School of Integrated Education,
  IUSS Institute for Advanced Studies, Pavia.
- 6^{th} June 2003
  Laurea Degree *cum laude* in Physics
  Supervisor: Prof. G. M. D'Ariano.
- 11.1998–10.2003,
  Laurea Course in Physics at University of Pavia, Italy.

Awards

- Best Teacher Award, Department of Computer Science,
  The University of Hong Kong (2022).
- Hong Kong Research Grant Council Senior Research Fellow (2020)
- Croucher Senior Research Fellowship (2018)

  Awarded yearly to senior scientists selected across all Hong Kong's Universities.
  Press release:
  Three Scientists Receive 2018 Croucher Fellowships
- CIFAR-Azrieli Global Scholar Fellowship (2016)
  "'Global Scholars are appointed to a research program for two years, becoming part of a global network of leading researchers pursuing answers to some of the most difficult challenges facing the world today."
  Press release:
  HKU Quantum Scientist Becomes Asia's First CIFAR-Azrieli Global Scholar
  Asian Scientist, December 1 2016.
- Tsinghua University Excellent Young Teacher Award (2015)

  Awarded yearly to 10 junior faculties across the whole University.
- 1000 Talents Plan of China Young Investigator Award (2012)
  awarded to *"'elites among the peers in certain field, [who] have the potential of becoming leading figures in the future."*
- Hermann Weyl Prize 2010

  "The Weyl Prize for 2010 has been awarded to Dr. G. Chiribella, in recognition of his pioneering work on the application of group theoretical methods to the problem of quantum estimation, within the framework of Quantum Information Theory".

  This has been the first (and up to now, only) time that the Weyl prize has been awarded in Quantum Information.

Professional Memberships by Invitation

- Elected member of the Hong Kong Young Academy of Sciences
- Member of the Standing Committee of the International Colloquia on Group Theoretical Methods in Physics (ICGTMP)
- Member of the Editorial Board of Communications in Mathematical Physics
- Member of the Editorial Board of Journal of Physics A: Mathematical and Theoretical
- Member of the Editorial Board of Open Systems and Information Dynamics
- Member of FQXi Foundational Questions Institute
- Fellow of the National Virgilian Academy of Sciences, Letters and Arts, Italy.
- Member of the Centre for Theoretical and Computational Physics, The University of Hong Kong.

Professional Memberships

- Member of the American Physical Society
- Member of the Association for Computing Machinery
- Member of the Chinese Physical Society

Bibliometrics

Web of Science:

- h-index: 28
- total number of citations: 3492
- most cited paper: 328

SAO/NASA Astrophysics Data System:

- h-index: 33
- total number of citations: 4531
- most cited paper: 360 citations

Google Scholar:

- h-index: 40
- total number of citations: 7064
- most cited paper: 675 citations

Listed in a study by Stanford University among the top 2% scientists worldwide in 2022.

Teaching

12. **The Quantum Revolution: from Secret Codes to Black Holes**
    Years: 2021-2023
    Role: Lecturer
    Course level: common core undergraduate, 39 academic hours/semester
    Degree: open to all degrees
    Institution: The University of Hong Kong.

11. **Discrete Mathematics**
    Years: 2019-2022
    Role: Lecturer
    Course level: undergraduate, 39 academic hours/semester
    Degree: Computer Science, Engineering Science, Civil Engineering, Business Administration (Information Systems)
    Institution: The University of Hong Kong.

10. **Quantum Information and Computation**
    Years: 2019-2022
    Role: Lecturer
    Course level: undergraduate, 39 academic hours/semester
    Degree: Computer Science, Engineering Science
    Institution: The University of Hong Kong.

9. **Quantum Information**
    Years: 1.2019-3.2019
    Role: Co-Lecturer
    Course level: undergraduate, Hilary Term
    Degree: Computer Science
    Institution: University of Oxford.

8. **Design and Analysis of Algorithms**
    Years: 2017-2018
    Role: Lecturer
    Course level: undergraduate, Hilary Term
    Degree: Computer Science
    Institution: University of Oxford.

7. **Discrete Mathematics**
    Years: 2016-2017
    Role: Lecturer
    Course level: undergraduate, 39 academic hours/semester
    Degree: Computer Science, Engineering Science, Civil Engineering, Business Administration (Information Systems)
    Institution: The University of Hong Kong.

6. **Quantum Information and Computation**
    Years: 2016-2017
    Role: Lecturer
    Course level: undergraduate, 39 academic hours/semester
    Degree: Computer Science, Engineering Science
    Institution: The University of Hong Kong.
    Teaching evaluation 2016-2017: score of 96.4%,
    top of HKU Computer Science.

5. **Advanced Quantum Information Theory**
    Years: 2015-2015

Role: Lecturer
Course level: undergraduate, 39 academic hours/semester
Degree: Physics.
Institution: Tsinghua University.

4. **Quantum Information**
   Years: 2012-2014
   Role: Lecturer
   Course level: undergraduate, 39 academic hours/semester
   Degree: Physics.
   Institution: Tsinghua University.
   Teaching evaluation 2013-2014: score of 96.83 %,
   top 15% of Tsinghua University.

3. **Quantum Information: Communication and Computation**
   Years: 2014-2015
   Role: Co-Lecturer
   Course level: master
   Degree: International master in Photonics
   Institution: Universitat Autònoma Barcelona.

2. **Selected Advanced Topics in Quantum Information**
   Years: 2011-2011
   Role: Co-Lecturer
   Course level: graduate
   Degree: Computer Science and Physics
   Institution: University of Waterloo.

1. **Analytical Mechanics**
   Years: 2005-2008
   Role: Co-Lecturer
   Course level: graduate
   Degree: Mathematics
   Institution: University of Pavia.

Guest lectures

- 5.2014
  Guest Lecturer of the undergraduate course "Advanced Topics in Modern Physics", degree course in Physics, Zhejiang University.

- 4.2012
  Guest Lecturer of the undergraduate course "Hot Topics in Computer Science", degree course in Computer Science, Tsinghua University.

Student supervision

PhD theses completed:

5. Yuxiang Yang, *Compression and Replication of Quantum Information*
   PhD in Computer Science, The University of Hong Kong, 08/2015-06/2018.
   Microsoft Asia Research Fellowship 2017
   Role: PhD supervisor.

4. Daniel Ebler, *Indefinite Causal Structures and Shannon Theory,*
   PhD in Computer Science, The University of Hong Kong, 08/2015-06/2018.
   HKIS-Towngas Young Scientist Award in Mathematical and Physical Sciences.
   Role: PhD supervisor.

3. Xiaobin Zhao, *Amplification, purification, and superposition of orders in continuous variable quantum systems,*
   PhD in Computer Science, The University of Hong Kong, 09/2016-06/2020.
   Role: PhD supervisor.

2. Ge Bai, *Quantum memory advantages in compression and benchmarking*
   PhD in Computer Science, The University of Hong Kong, 09/2016-07/2020
   HKIS Young Scientist Award in Mathematical and Physical Sciences.
   Role: PhD supervisor.

1. Mo Yin, *Coherent quantum learning machines*
   PhD in Computer Science, The University of Hong Kong, 09/2016-03/2021
   Role: PhD supervisor.

PhD theses in progress:

10. Lorenzo Giannelli, *tbd,*
    PhD in Computer Science, The University of Hong Kong, 09/2021.
    Role: PhD supervisor.

9. Tein van der Lugt, *t.b.d.*
   PhD in Computer Science, University of Oxford, 09/2021.
   Role: PhD supervisor (co-supervision with Jonathan Barrett).

8. Qiushi Liu, *tbd,*
   PhD in Computer Science, The University of Hong Kong, 09/2021.
   Role: PhD co-supervisor.

7. Yuan Liu *tbd,*
   PhD in Computer Science, The University of Hong Kong, 09/2020-now.
   Role: PhD co-supervisor.

6. Yan Zhu, *tbd,*
   PhD in Computer Science, The University of Hong Kong, 09/2019-now.
   Role: PhD supervisor.

5. Swati Singh, *tbd,*
   PhD in Computer Science, The University of Hong Kong, 09/2019-now.
   Role: PhD supervisor.

4. Augustin Vanrietvelde, *t.b.d.*
   PhD in Computer Science, University of Oxford, 09/2019-now.
   Role: PhD supervisor (co-supervision with Jonathan Barrett).

3. Matthew Wilson, *t.b.d.*
   PhD in Computer Science, University of Oxford, 09/2019-now.
   Role: PhD supervisor (co-supervision with Jonathan Barrett).

2. Hlér Kristjánsson, *A second-quantized Shannon theory*
   PhD in Computer Science, University of Oxford, 09/2018-now.
   Role: PhD supervisor (co-supervision with Jonathan Barrett).

1. Meng Fei, *Thermodynamics of quantum information processing*
   PhD in Computer Science, The University of Hong Kong, 09/2017-now
   Role: PhD supervisor.

Master theses:

7. Marianna Crupi, *Quantum and Classical Data Transmission Through Information-erasing Channels in a Superposition of Cyclic Orders*
   degree course in Physics, University of Pisa, 2022.
   degree awarded *cum laude*
   Role: External Supervisor.

6. Anthony Munson, *Quantum communication with superposition of paths*
   degree course in Computer Science, University of Oxford, 2020.
   Role: Supervisor.

5. Ciprian Stirbu, *Distance metrics of quantum processes*
   degree course in Computer Science, University of Oxford, 2019.
   Role: Supervisor.

4. William Simmons, *A programming language for higher-order quantum computation with indefinite causal order*,
   (Masters Degree in Computer Science, University of Oxford, 2018).
   Hoare Prize for the best MSc Project in Computer Science 2018.
   Role: Supervisor.

3. Iskren Vankov, *A computational model for quantum information processing with indefinite causal order*,
   (Masters Degree in Computer Science, University of Oxford, 2018).
   Role: Supervisor.

2. Christa Zoufal, *The quantum SWITCH and its causal simulations,*
   (degree course in Physics, ETH Zürich, 2018).
   Role: External Supervisor.

1. Carlo Maria Scandolo, *Quantifying entanglement as a physical resource,*
   (degree course in Physics, University of Padova, Galilean School of Advanced Studies, 2014).
   Role: External Supervisor.

Undergraduate theses:

18. Wenxu Mao, *Quantum Superposition of Communication Lines*, final year project in Computer Science, The University of Hong Kong (2019).

17. Gao Yuan, *Quantum Machine Learning with Superposition of Causal Orders*, final year project in Computer Science, The University of Hong Kong (2019).

16. Mo Yin, *Realizing optimal programmable quantum gates using quantum spins*
    degree course in Physics, Tsinghua University, 2016.
    Role: External Supervisor.

15. Rui Chao, *Super-activation of quantum reference frames,*
    (degree course in Computer Science, Tsinghua University, 2015)
    Excellent Graduate Award of Tsinghua University.
    Role: Supervisor.

14. Tongyang Li, *Minimum collision measurements for symmetric sources of quantum states,*
(degree course in Computer Science, Tsinghua University, 2015)
Excellent Graduate Award of Tsinghua University.
Role: Supervisor.

13. Cupjin Huang, *Super-replication of entangled states and unitary gates*,
(degree course in Computer Science, Tsinghua University, 2015)
Excellent Graduate Award of Tsinghua University.
Role: Supervisor.

12. Qinheping Hu, *Quantum fission: breaking higher angular momentum entanglement into standard EPR pairs*,
(degree course in Computer Science, Tsinghua University, 2015).
Role: Supervisor.

11. Shichuan Deng, *Optimal approximate quantum adder for coherent states*,
(degree course in Computer Science, Tsinghua University, 2015).
Role: Supervisor.

10. Xuren Zhou, *How to indicate a direction in a higher-dimensional space,*
(degree course in Computer Science, Tsinghua University, 2015).
Role: Supervisor.

9. Tian Zhang, *Operational Meaning of the Max-Information in the Optimal Simulation of Quantum Channels Back in Time.*
(degree course in Physics, Yuanpei College, Peking University, 2015).
Role: External Supervisor.

8. Jian Wang, *Simulating dynamical equations through quantum correlations*,
(degree course in Physics, Peking University, 2015).
Role: External Supervisor.

7. Zhao Xiaobin, *Conclusive estimation of thermal states of the radiation field,*
(degree course in Physics, Northwestern Polytechnical University of China, Xian, 2014).
Role: External Supervisor.

6. Yuxiang Yang, *Quantum cloning at the Heisenberg limit,*
(degree course in Physics, Tsinghua University, 2013)
Excellent Graduate Award of Tsinghua University,
Chi-Sun Yeh Prize of the Physics Department, Tsinghua University.
Role: Supervisor.

5. Jinyu Xie, *Optimal amplification of Gaussian-distributed coherent states,*
(degree course in Computer Science, Tsinghua University, 2013)
Excellent Graduate Award of Tsinghua University,
Role: Supervisor.

4. Dina Genkina, *Optimal Probabilistic Teleportation Machines*,
(Perimeter Scholars International, Waterloo, 2011).
Role: Co-supervisor (with L. Hardy).

3. Alessandro Bisio, *A game theoretical approach to quantum coin flipping,*
(degree course in Physics, Pavia, 2007).
Role: Co-supervisor (with G.M. D'Ariano and P. Perinotti).

2. Sergio de Zordo, *Quantum supermaps,*
(degree course in Physics, Pavia, 2007).
Role: Co-supervisor (with G.M. D'Ariano and P. Perinotti).

1. Paolo Albini, *Macchine quantistiche per la sovrapposizione di stati,*
(degree course in Physics, Pavia, 2004).
Role: Co-supervisor (with G.M. D'Ariano, C. Macchiavello and P. Perinotti).

Postdoc mentoring

6. Yadong Wu (PhD Calgary), 01/2020-

5. Marios Christodoulou (PhD Marseille), 03/2019-02/2021.

4. Some Sankar Bhattacharya (PhD Indian Statistical Institute), 08/2018-05/2021.

3. Sina Salek (PhD University of Bristol), 02/2017-06/2018

2. Matthew Graydon (PhD University of Waterloo), 02/2017-07/2017.

1. Shojun Nakayama (PhD University of Tokyo), 09/2014-09/2015.

Scientific Collaborations

In alphabetic order: G. Adesso (Nottingham), E. Aurell (KTH Stockholm), E. Bagan (Barcelona), Č. Brukner (Vienna), A. Cabello (Seville), J. Calsamiglia (Barcelona), N. J. Cerf (Bruxelles), G. M. D'Ariano (Pavia), V. Giovannetti (Scuola Normale Superiore, Pisa), L. Hardy (Perimeter Institute), M. Hayashi (Nagoya), M. Kleinmann (Siegen), B.-H. Liu (USTC), C. Macchiavello (Pavia), L. Maccone (Pavia), K. Modi (Monash), R. Muñoz-Tapia (Barcelona), M. Müller (Vienna), P. Perinotti (Pavia), D. Reitzner (Bratislava), M. Rötteler (Microsoft Research, Redmond), C. M. Scandolo (Oxford), D. Burgarth (MacQuarie), M. F. Sacchi (Pavia), M. Sedlak (Olomouc), R. Spekkens (Perimeter Institute), A. Toigo (Milano), P. Walther (Vienna), R. F. Werner (Hannover), Y. Yang (ETH Zürich), A. C.-C. Yao (Tsinghua University), K. Yuasa (Waseda University, Tokyo), M. Ziman (Bratislava), K. Życzkowski (Krakow).

Conference Chair

13. General Chair of the HKU Workshop on the Quantum Information Structure of Spacetime, January 13-17 2020, The University of Hong Kong, Hong Kong, China.

12. Program Committee Co-Chair (with Man-Hong Yung and Oscar Dahlsten) of the Second Hong Kong-Shenzhen Workshop on Quantum Information Science, November 26-29 2018, Southern University of Science and Technology, Shenzhen, China.

11. Program Committee Co-Chair (with Man-Hong Yung) of the First Hong Kong-Shenzhen Workshop on Quantum Information Science, May 21-24 2018, Southern University of Science and Technology, Shenzhen, China.

10. Program Committee Co-Chair (with Peter Selinger) of QPL 2018, June 3-7 2018, Dalhousie University, Halifax, Canada.

9. Program Committee Chair and Organizing Committee Chair of the 2018 Hong Kong Workshop on Quantum Information and Foundations, January 8-12 2018, The University of Hong Kong, Hong Kong, China.

8. Program Committee Chair and Organizing Committee Chair of the 2016 Hong Kong Workshop on Quantum Information and Foundations, May 4-6 2016, The University of Hong Kong, Hong Kong, China.

7. Program Chair of the *Mini-workshop on Quantum Information Dynamics*, April 15, Tsinghua University, Beijing, China.

6. Program Chair of the Workshop on Quantum Metrology, Interaction, and Causal Structure 2014, December 1-5 2014, Tsinghua University, Beijing, China.

5. Program Chair of the Workshop on Quantum Metrology, Interaction, and Causal Structure 2013, December 9-13 2013, Tsinghua University, Beijing, China.

4. Local Chair of QIP 2013, January 21-25 2013, Tsinghua University, Beijing, China.

3. Co-Chair (with Matthias Christandl, Aram Harrow, and Luc Vinet) of the Session "Quantum Information and Representation Theory" at the dIX International Colloquium on Group-Theoretical Methods in Physics, August 20-26 2012, Chern Institute of Mathematics, Tianjin, China.

2. Chair of the Focus Session "Quantum Information for Quantum Foundations" at the March Meeting of the American Physical Society 2012, Boston, USA.

1. Main Organizer of "Conceptual Foundations and Foils for Quantum Information Processing",
Perimeter Institute for Theoretical Physics, May 9-14 2011.
Hyperlink to my Opening Speech

Program Committee Member in International Conferences

33. Program Committee Member of QIP2022, March 7-11 2022, Caltech, USA.

32. Program Committee Member of AQIS2021, September 1-4 2021, Tokyo, Japan (online).

31. Program Committee Member of TQC2021, July 5-8 2021, Riga, Latvia (online).

30. Program Committee Member of QTurn2020, November 27-30 2020, Florianopolis, Brazil (online).

29. Program Committee Member of QPL2020, June 2-6 2020, Paris, France (online).

28. Program Committee Member of QIP2020, January 6-10 2020, Shenzhen, China.

27. Program Committee Member of AQIS2019, August 19-23 2019, Seoul, Korea.

26. Program Committee Member of QPL2019, June 10-18 2019, Chapman University.

25. Program Committee Member of Quantum Computing: Promises and Realistic Deployments, June 10-12 2019, Cetraro, Italy.

24. Program Committee Member of QIP 2019, January 14-18 2019, University of Colorado Boulder.

23. Program Committee Member of AQIS 2017, September 4-8 2017, National University of Singapore.

22. Program Committee Member of QPL 2017, 3-7 July 2017, Radboud University.

21. Program Committee Member of TQC 2016, 26-28 September 2016, Freie Universität Berlin.

20. Program Committee Member of AQIS 2016, August 28-September 2 2016, Academia Sinica, Taipei, Taiwan.

19. Program Committee Member of QPL 2016, 6 -10 June 2016, University of Strathclyde.

18. Program Committee Member of QCMC 2016, 4-8 July 2016, Singapore.

17. Program Committee Member of CEQIP 2015, 18-21 June 2015, Telč, Czech Republic

16. Program Committee Member of AQIS 2015, August 24-28 2015, Seoul, Korea.

15. Program Committee Member of QPL 2015, Oxford, UK.

14. Program Committee Member of QCMC 2014, November 1-6 2014, Hefei, China.

13. Program Committee Member of QPL 2014, June 4-6, 2014, Kyoto, Japan.

12. Program Committee Member of TQC 2014, May 21-24 2014, Singapore.

11. Program Committee Member of AQIS 2014, August 21-25 2014, Kyoto, Japan.

10. Program Committee Member of QIP 2014, February 3-7 2014, Barcelona, Spain.

9. Program Committee Member of QPL 2013, 17-19 July 2013, Institute for Photonic Sciences, Barcelona, Spain.

8. Program Committee Member of AQIS 2013, August 25-30 2013, Chennai, India.

7. Program Committee Member of QPL 2012, October 10-12, Université Libre de Bruxelles, Brussels, Belgium.

6. Program Committee Member of Natural/Unconventional Computing and its Philosophical Significance, Alan Turing world congress AISB/IACAP, Birmingham (UK).

5. Program Committee Member of the Hong Kong Workshop on Quantum Information, June 18-22, 2012, Chinese University of Hong Kong, Hong Kong, China.

4. Program Committee Member of the Tsinghua-Aarhus CTIC Workshop on Quantum Information Science, May 21-27, 2012, Tsinghua University, Beijing, China.

3. Program Committee Member of QPL 2011, October 27-29 2011, University of Nijmegen, Netherland.

2. Program Committee Member of AQIS 2011, August 24-27 2011, Busan, Korea.

1. Program Committee Member of AQIS 2010, August 27-31, 2010 University of Tokyo, Japan.

Committee Member for International Awards

Member of Global Selection Committee for the Best Paper Award in Theoretical Physics (Yau Mathematical Sciences Center, Tsinghua University), 2023 edition.

Organization of Seminars and Schools

3. Chair of Quantum Information and Cryptography (QUIC) Seminar Series, IIIS, Tsinghua University, October 2012-July 2015.

2. Chair of the Quantum Foundations Seminar Series at Perimeter Institute for Theoretical Physics, September 2010-June 2012.

1. Organizing Committee Member of Summer School "Frontiers of Quantum Information Science", August 20-24, 2012, Institute for Interdisciplinary Information Sciences, Tsinghua University, Beijing, China.

Research grants

As Principal Investigator

20. *Trustworthy quantum gadgets for secure online communication*,
Hong Kong Research Grant Council, Research Impact Fund, grant number R7035-21.
Duration: 6/2022-5/2027
Amount: 6,750,000 HKD.

19. *Quantum causal discovery and the foundations of quantum artificial intelligence*,
Hong Kong Research Grant Council, Senior Research Fellowship, grant number SRFS2021-7S02
Duration: 1/2021-12/2025
Amount: 7,800,000 HKD.

18. *Fast monitoring and stabilization of quantum communication links for high-performance quantum networks*,
Hong Kong Research Grant Council (GRF track), grant number 17307520.
Duration: 1/2021-12/2024
Amount: 899,792 HKD.

17. *Quantum Information Structure of Spacetime*
John Templeton Foundation,
Duration: 11/2019-08/2022
Amount: 250,493 USD.

16. *Quantum communication networks with coherent control over multiple transmission lines*,
Hong Kong Research Grant Council (GRF track), grant number 17307719.
Duration: 1/2020-12/2023
Amount: 753,667 HKD.

15. *Genuine multichannel enhancements in quantum communication networks*,
HKU Seed Funding for Basic Research.
Duration 03/2019-02/2021
Amount: 172,400 HKD

14. *Quantum sensor networks: optimized design, performance benchmarks, and cryptographic applications*,
Hong Kong Research Grant Council (GRF track), grant number 17300918.
Duration: 1/2019-12/2022
Amount: 684,585 HKD.

13. *Theory of Quantum Communication With Indefinite Causal Order*,
Croucher Senior Research Fellowship.
Duration: 08/2018-07/2021
Amount: 2,956,040 HKD

12. *Compressed Quantum Dynamics: Storing, Programming, and Simulating Physical Processes with Minimum-Sized Quantum Systems*,
Hong Kong Research Grant Council (GRF track), grant number 17300317.
Duration: 9/2017-8/2020
Amount: 314,900 HKD

11. *Quantum-limited amplification and noise reduction in multimode Gaussian systems*,
HKU Seed Funding for Basic Research.
Duration 01/2017-12/2018
Amount: 141,140 HKD

10. *The Information-Theoretic Power of Quantum Causal Structures*,
National Natural Science Foundation of China, grant number 11675136
Duration: 01/2017-12/2022
Amount: 600,000 RMB

9. *Quantum Causal Structures*
John Templeton Foundation,
The project involves a large international network coordinated by C. Brukner (Vienna). Duration: 11/2016-08/2019
Amount: 250,493 USD.

8. *The Observer Observed: a Bayesian Route to the Reconstruction of Quantum Theory*
FQXI Large Grant, grant number FQXi-RFP-1608
Duration: 07/2016-06/2018
Amount: 113,850 USD

7. *CIFAR-Azrieli Global Scholar Research Founding*
Duration: 09/2016-08/2018
Amount: 100,000 CAD

6. *Energy efficient quantum information processing*
Hong Kong Research Grant Council (GRF track), grant number 17326616.
Duration: 10/2016-09/2019
Amount: 326,811 HKD

5. *Optimal manipulation of quantum resources for precision measurements and control*
HKU Seed Funding for Basic Research.
Duration 01/2016-12/2017
Amount: 300,000 HKD

4. *The fundamental principles of information dynamics*
FQXI Large Grant, grant number FQXi-RFP3-1325
Duration 10/2013-09/2015
Amount: 48,300 USD

3. *Efficient Quantum Devices at the Heisenberg Bound (renewal)*,
National Science Foundation of China, Research Fund for International Young Scientists, grant number 11450110096
Duration 07/2014-06/2015
Amount: 200,000 RMB

2. *Efficient Quantum Devices at the Heisenberg Bound*,
National Science Foundation of China, Research Fund for International Young Scientists, grant number 11350110207
Duration 07/2013-06/2014
Amount: 200,000 RMB

1. *1000 Talents of China Young Investigator Grant*, project duration: 8/2012-07/2015
Amount: 2000000 RMB.

As Key Member

1. *Tsinghua-Aarhus Joint Center for the Theory of Interactive Computation*, duration of appointment: 04/2014 to 07/2015.
Position in the project: Workpackage Leader for Quantum Information on the Tsinghua side.

As Regular Member

2. *Genuine Quantum Network*, 973 Program Guiding Projects on Major Scientific Problems, grant number: 2011CBA00300, project duration: 01/2011 to 08/2015.
Position in the project: member.

1. FP7 Fet-Open European project *CORNER*, project duration 2008-2011
Grant amount: $2,000,000$ EU.
Position in the project: member.

Grants for international cooperation and event sponsorship

13. June 2018: Founding from the organization of the William M.W. Mong Distinguished Lecture,
Speaker: Prof. Artur Ekert.

12. July 2016: Founding from the organization of the William M.W. Mong Distinguished Lecture,
Speaker: Prof. Gilles Brassard.

11. May 2016: Founding for Event Sponsorship from Journal of Physics A
Founding amount: 1000 GBP.

10. June 2015: Founding for Event Sponsorship obtained from FQXi
Founding amount: 10000USD.

9. April 2013: Founding from Tsinghua/Nottingham Research and Teaching Fund project "Quantum benchmarks-Quality control for realistic quantum devices".
Founding amount: 5000 GBP.
Application prepared in collaboration with G. Adesso.

8. November 2012: Funding for US students travel support obtained from NSF.
Funding amount: 17000 USD.
Application prepared in collaboration with Y. Shi (main proponent).

7. September 2012: Funding for Event Sponsorship obtained from the Institute of Quantum Computing.
Funding amount: 5000 CAD.

6. September 2012: Funding for Event Sponsorship obtained from ID Quantique.
Funding amount: 1000 USD.

5. September 2012: Funding for Event Sponsorship obtained from the AIP, Journal of Mathematical Physics.
   Funding amount: 1000 GBP

4. September 2012: Funding for Event Sponsorship obtained from the IOP, Journal of Physics A.
   Funding amount: 1000 GBP.

3. February 2011: Funding for Event Sponsorship obtained from Quantum Works.
   Funding amount: 16224 CAD.
   Application prepared in collaboration with A. Broadbent and R. W. Spekkens.

2. March 2011: Funding for Canadian students travel support obtained from MITACS.
   Funding amount: 5200 CAD.
   Application prepared in collaboration with A. Broadbent and R. W. Spekkens.

1. October 2011: Funding for Event Sponsorship obtained from the Institute of Quantum Computing.
   Funding amount: 5408 CAD.
   Application prepared in collaboration with A. Broadbent and R. W. Spekkens.

Reviewing Service

Reviewer for Nature Physics, Nature Communications, npjQuantumInformation, Physical Review Letters, Physical Review X, IEEE Transactions on Information Theory, New J. Phys., Quantum, Physical Review A, Quantum Information and Computation, Proceedings of the Royal Society, Communications in Mathematical Physics, Linear Algebra and Its Applications, Annales Henri Poincare, Journal of Mathematical Physics, Journal of Physics A and B, Foundations of Physics, Studies in History and Philosophy of Modern Physics.

Book Reviewer for:

- Cambridge University Press
- Springer Verlag.

Project Reviewer for

- European Research Council
- Deutsche Forschungsgemeinschaft (German Research Foundation)
- Engineering and Physical Sciences Research Council (EPSRC)
- Austrian Science Fund
- John Templeton Foundation
- Swiss National Science Foundation (SNSF)
- Natural Sciences and Engineering Council of Canada (NSERC)
- Israel Science Foundation
- Agency for Science, Technology, and Research, Singapore (A*STAR)

- Mitacs
- National Science Centre (Narodowe Centrum Nauki - NCN)
- Slovak Research and Development Agency
- Université Libre de Bruxelles, Département Recherche
- University of Macau, Research and Development Office
- INdAM COFUND-2012 Fellowship Programme
  (funded by the VII Framework Programme of the European Union).

PhD Thesis Reviewer

14. Kaumudibikash Goswami (University of Queensland, 2021)
13. Ningning Xie (The University of Hong Kong, 2021)
12. John van de Wetering (Radboud University Nijmegen, 2020)
11. Yuhao Zhang (The University of Hong Kong, 2020)
10. Yanglin Wang (The University of Hong Kong, 2019)
9. Dominic Verdon (University of Oxford, 2019).
8. Thomas Galley (University College London, 2018).
7. Carlo Sparaciari (University College London, 2018).
6. Ji Guan (University of Technology Sydney, 2018).
5. Christina Giarmatzi (University of Queensland, 2017).
4. Lea Krämer Gabriel (ETH, Zürich, 2016).
3. Erkka Haapasalo (University of Turku, Finland, 2015).
2. Cheng Guo (University of Technology Sydney, 2015).
1. Ana Belén Sainz (ICFO, Institute for Photonic Sciences, Barcelona, 2014).

International Expert for the 2014 edition of the award Distinguished Dissertations,
on behalf of the Council of Professors and Heads of Computing (CPHC),
in conjunction with British Computer Society (BCS)
and the BCS Academy of Computing.

External Reviewer on Academic Staff Promotion for the Academy of Mathematics and Systems Science, Beijing (January 2017).

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L. Accardi and F. Fagnola, eds., World Scientific (2012).

3. G. Chiribella, G. M. D'Ariano, and P. Perinotti,
Informational Axioms for Quantum Theory,
AIP Conf. Proc. **1424**, 270 (2012).

2. G. Chiribella,
Group Theoretic Structures in the Estimation of an Unknown Unitary Transformation,
J. Phys.: Conf. Ser. **284** 012001 (2011),
plenary talk
GROUP28: The dVIII International Colloquium on Group-Theoretical Methods in Physics.

1. G. Chiribella, G. M. D'Ariano, and P. Perinotti,
Optimal Covariant Quantum Networks,
plenary talk
Proceedings of QCMC-08, AIP Conf. Proc. **1110**, 47 (2009).

Other proceedings

1. G. Chiribella,
   Quantum Superpositions of Causal Structures.
   From Foundations to New Technologies,
   Critical Hermeneutics **4**, 1-24 (2020).

Book chapters

- G. Chiribella and R. W. Spekkens,
  Introduction,
  in G. Chiribella and R. Spekkens eds.,
  Quantum Theory: Informational Foundations and Foils, Springer (2015).

- G. Chiribella, G. M. D'Ariano, and P. Perinotti,
  Quantum From Principles,
  in G. Chiribella and R. Spekkens eds.,
  Quantum Theory: Informational Foundations and Foils, Springer (2015).

Books

- G. M. D'Ariano, G. Chiribella, and P. Perinotti,
  Quantum Theory from First Principles: An Informational Approach,
  Cambridge University Press (2017).

  Book reviews:

  Nicolas Gisin (Université de Genève):
  "An extraordinary book on the deep principles behind quantum theory."

  Scott Aaronson (Massachusetts Institute of Technology):
  "Part quantum mechanics textbook, part original research contribution, this book is a fascinating, audacious effort to "rebuild quantum mechanics from the ground up', presenting it as the logical consequence of simple information-theoretic postulates. Students wishing to learn quantum information should read it and do all the exercises!"

  Valerio Scarani (Centre for Quantum Technologies, Singapore):
  "I can hardly think of a more consciously, carefully crafted itinerary into these matters. After all, there are only a handful of trusted guides along these paths, and here you are in very safe hands."

- G. Chiribella and R. W. Spekkens, Eds.
  Quantum Theory: Informational Foundations and Foils,
  Springer (2015).

  Featured in the article
  Navigating the crossroads of quantum information and quantum foundations,
  Tenille Bonoguore, *Inside the Perimeter*, January 31, 2017.
  "A roadmap to the most promising research directions."

Popular science writing

- G. Chiribella, Quantum Information: Good causes,
  Nature Physics **11**, 379-380 (2015)

- G. Chiribella, *One Good Reason Why the World Should be Quantum*,
  commissioned by the scientific magazine Nautilus,
  published with the editorial title Is Your Theory of Everything Pure Enough?

Plenary and Keynote Talks at International Conferences

9. Workshop on Quantum Information Processing (QIP) 2023,
   February 4-10 2023, Ghent University (Belgium)
   Plenary talk: *Quantum Information Processing with Indefinite Causal Order.*

8. XIth International Symposium "Quantum Theory and Symmetries" (QTS),
   July 1-5, 2019, Centre de recherches mathématiques, Montréal (Canada)
   Plenary talk:
   Quantum strategies for the identification of cause-effect relations.

7. International Workshop on Quantum Computation and Quantum Information Processing 2017,
   November 12-14 2017, Academy of Mathematics and Systems Science, CAS, Beijing (China)
   Plenary talk:
   Optimal quantum compression for identically prepared systems.

6. Conference on Coherent States and their Applications,
   November 14-18 2016, CIRM, Marseille (France)
   Plenary talk:
   New applications of coherent states in quantum information theory.

5. The 46th Symposium on Mathematical Physics: Information Theory and Quantum Physics
   June 15-17, 2014, Nicolaus Copernicus University, Toruń (Poland)
   Plenary talk:
   Quantum Theory, namely where physics and information meet.

4. China Theory Week 2013
   July 29-August 2 2013, Aarhus University (Denmark)
   Keynote talk: *Quantum replication at the Heisenberg limit.*

3. XXXII Workshop on Geometric Methods in Physics
   June 30-July 7 2013, Bialowieza (Poland)
   Plenary talk: *Amplifying quantum information.*

2. Workshop on Causal Structure in Quantum Theory,
   May 27-31 2013, Benasque (Spain)
   Keynote talk:
   Quantum time-travels: from fiction to optimal information processing.

1. The XXXVIII International Colloquium on Group-Theoretical Methods in Physics
   July 26-30 2010, Newcastle upon Tyne (UK)
   Plenary talk: *Group theoretic quantum estimation.*

Invited Talks at International Conferences

72. Celebrating the Choi-Jamiołkowski Isomorphism,
March 1-2 2023, online event organized by KCIK National Quantum Information Centre (Poland)
Invited talk: *Higher-order quantum processes and quantum causal structures.*

71. INAQT Network Meeting 2023,
January 23-25 2023, University of Glasgow, Glasgow (UK)
Invited introductory talk: *Applications of the quantum SWITCH to quantum metrology and estimation.*

70. Quantum IT: From Foundations to Technologies,
November 9-10 2022, Korean Advanced Institute of Science and Technology (KAIST), Daejeon, Seoul (Korea)
Invited talk: *Quantum information processing with indefinite causal structure: from foundations to applications in quantum communication and metrology.*

69. Third Kyoto Workshop on Quantum Information, Computation, and Foundations,
October 17-21 2022, Kyoto (Japan)
Invited Talk: *Asymptotically optimal programming of unitary gates.*

68. Quantum Information and Quantum Technology (Quantum 2022),
October 22-23 2022, Wenzhou (China)
Invited Talk: *Optimal Programmable Quantum Gates.*

67. Quantum Information and Quantum Technology (QIQT-2022),
June 20-27 2022, Indian Institute of Science Education and Research Kolkata (India), online
Invited Talk: *Universal Quantum Gate Programming.*

66. 16th International Symposium on Orthogonal Polynomials, Special Functions and Applications, Minisymposium on the Application of Orthogonal Polynomials and Special Functions to Quantum Information,
June 13-17 2022, Centre de Recherches Mathématiques (Montréal, Canada), online
Invited Talk: *Programming unitary gates.*

65. Workshop on the Information Architecture of Spacetime,
May 30-June 3 2022, OIST (Okinawa, Japan), online
Invited Talk: *Quantum operations with indefinite time direction.*

64. INAQT launch event,
March 31-April 1 2022, University of Glasgow (UK), online
Invited Talk: *Applications of indefinite causal order to quantum communication and metrology.*

63. International Conference on Quantum Information and Foundations ICIQIF-2022,
February 14-24 2022, Indian Statistical Institute (Kolkata, India), online
Invited Talk: *Quantum and Classical Data Transmission with the Assistance of Indefinite Causal Order.*

62. Second Kyoto Workshop on Quantum Information, Computation, and Foundation,
September 13-15 2021, Kyoto University (Japan), online
Invited Talk: *Symmetries of quantum evolutions.*

61. Vienna Quantum Foundations Conference,
September 7-10 2021, University of Vienna (Austria), online
Invited Talk: *Quantum operations with indefinite direction of time.*

60. Logic, Quantum Computing, and Artificial Intelligence,
June 30- July 3 2021, Virtual Venue, Adobe Connect,
Invited Talk: *Quantum causal structures from higher order quantum maps.*

59. 52 Symposium on Mathematical Physics,
June 14-17 2021, Toruń (Poland), online,
Invited Talk: *Quantum operations with indefinite direction of time.*

58. Quantum Foundations, Gravity, and Causal Order,
May 30-June 4 2021, Banff International Research Station (Canada), online,
Invited Talk: *Quantum operations with indefinite direction of time.*

57. CTP Quantum information Days 2020(+1),
February 22-24 2021, Warsaw, (Poland), online,
Invited Talk: *The quantum time flip.*

56. Annual Conference of the Physical Society of Hong Kong,
July 24-25 2020, Hong Kong (China), online,
Invited Talk: *A second-quantized Shannon theory.*

55. The Quantum Information Structure of Spacetime,
January 13-17 2020, The University of Hong Kong (China),
Invited Talk: *10 Years of the Quantum SWITCH.*

54. Indefinite Causal Structure,
December 9-13 2019, Perimeter Institute (Canada),
Invited Talk: *10 Years of the Quantum SWITCH: state of the art and new perspectives.*

53. Causality in the quantum world: harnessing quantum effects in causal inference problems workshop,
September 17-20 2019, Capri (Italy),
Invited Talk: *Quantum Shannon Theory with Superposition of Causal Orders.*

52. Asian Quantum Information Science 2019,
August 19-23 2019, Seoul (Korea),
Invited Talk: *Quantum speedup in testing causal relationships.*

51. Convegno internazionale "L'immodificabilità del passato. Scienze dell'uomo e scienze della natura a confronto" May 23-24 2019, Cagliari (Italy),
Invited Talk: *Causalità nel mondo dei quanti, tra fondamenti e nuove tecnologie.*

50. QML+ 2018, Conference on Quantum Machine Learning Plus,
September 17-21 2018, Innsbruck (Austria),
Invited Talk: *Quantum speedup in testing causal relationships.*

49. International conference "Quantum information, statistics, probability" with a special session dedicated to A. S. Holevo's 75-th birthday,
September 12-14 2018, Steklov Mathematical Institute, Moscow (Russia),
Invited Talk: *Communication through quantum channels in indefinite causal order.*

48. International Advanced Research Workshop on High Performance Computing, Silver Jubilee
July 2-6 2018, Cetraro (Italy),
Invited Talk: *Data compression for quantum population coding.*

47. The 50th Symposium in Mathematical Physics
June 21-24 2018, Nicolaus Copernicus University, Torun (Poland),
Invited Talk: *A second-quantized Shannon theory.*

46. Algorithmic Information, Induction and Observers in Physics
April 9-13 2018, Perimeter Institute for Theoretical Physics (Canada),
Invited Talk: *Quantum speedup in testing causal hypotheses.*

45. Observers in Quantum and Foil Theories
April 2-6 2018, Perimeter Institute for Theoretical Physics (Canada),
Invited Talk: *Agents, subsystems, and the Conservation of Information.*

44. The 7th Biennial Conference on Quantum Information and Quantum Control (CQIQC-VII)
August 28 - September 1 2017, Fields Institute, University of Toronto (Canada),
Invited Talk:
Storing identically prepared particles in the smallest amount of memory.

43. Contextuality: Conceptual Issues, Operational Signatures, and Applications
July 24-28 2017, Perimeter Institute for Theoretical Physics (Canada),
Invited Talk:
A physical picture for quantum contextuality.

42. International Symposium "Within and beyond Quantum Mechanics"
25-27 May 2017, National Quantum Information Centre (KCIK), Gdansk (Poland),
Invited talk:
An Axiomatic Foundation for Thermodynamics.

41. CIFAR Quantum Information Science Program Meeting, Spring 2017
May 14-18 2017, Rimrock Hotel, Banff (Canada),
Invited talk: *Quantum Stopwatch: How To Store Time in a Quantum Memory.*

40. Workshop on Compositionality
December 5-9 2016, Simons Institute for the Theory of Computation, University of California Berkeley (USA),
Invited talk: *Compositional Thermodynamics.*

39. CIFAR Quantum Information Science Program Meeting, Fall 2016
October 20-22 2016, University of British Columbia, Vancouver (Canada),
Invited talk:
The minimum description length of quantum states.

38. Trustworthy Quantum Information Workshop (TYQI 2016)
June 27-July1 2016, Shanghai, (China),
Invited talk:
Quantum causal networks and indefinite causal order.

37. Workshop on Quantum Networks
March 30-April 1 2016, ICFO-Institute of Photonic Sciences, Barcelona (Spain),
Invited talk (opening lecture):
Causal and post-causal quantum networks.

36. Workshop on Quantum Nonlocality, Causal Structures and Device-independent Quantum Information
December 10-14 2015, National Cheng Kung University of Taiwan, Tainan (Taiwan),
Invited talk: *All non-causal quantum processes.*

35. Workshop around BQP
December 7-8 2015, Tokyo Institute of Technology (Japan)
Invited talk (opening lecture):
Higher order quantum computation.

34. Contextuality: Why and How
August 24-26, 2015 Linköping University (Sweden),
Invited talk: *Contextuality and the fundamental sharpness of measurements.*

33. Causality in a Quantum World
August 16- 21 2015, Novotel Twin Waters Resort, Sunshine Coast, Brisbane (Australia),
Invited talk: *Deconstructing and reconstructing causality.*

32. HK-CSRC Forum 2015
August 13-14 2015, Beijing Computational Science Research Center (China),
Invited talk: *Quantum super-replication.*

31. Central European Quantum Information Processing Workshop (CEQIP 2015)
June 18-21 2015, Telč (Czech Republic),
Invited talk: *The ultimate limits of quantum postselection.*

30. Quantum Theory: from foundations to technologies (QTFT)
June 8-11 2015, Linnaeus University, Växjö (Sweden),
Invited talk: *Purity without probability.*

29. Information Theoretic Foundations for Physics
May 11-15 2015, Perimeter Institute For Theoretical Physics, Waterloo (Canada),
Invited talk: *Towards an information-theoretic foundation of (quantum) thermodynamics*.

28. Quantum Hamiltonian Complexity Reunion
May 4-8 2015, Simons Institute for the Theory of Computing, University of California Berkeley (USA).
Invited talk: *EPR alignment of reference frames.*

27. Nagoya Winter Workshop 2015: Reality and Measurement in Algebraic Quantum Theory
March, 9-13 2015, Nagoya University (Japan),
Invited talk: *Superactivation of quantum reference frames.*

26. CIFAR Quantum Information Science Program Meeting, Fall 2014
November 23-26 2014, Institute for Quantum Computing, Waterloo (Canada),
Invited talk: *Superactivation of quantum reference frames.*

25. Celebrating 10 Years of Categorical Quantum Mechanics, October 14-19 2014, University of Oxford (UK),
Invited talk: *Categorical purification.*

24. 2014 Mini-Workshop on Quantum Information Processing
August 28-29 2014, National Tsing-Hua University, Hsin-Chu (Taiwan),
Invited talk: *Quantum state transformation games.*

23. 3rd International Conference on New Frontiers in Physics (ICNFP 2014)
28th July - 6th August 2014, Crete (Greece),
Invited talk:
Quantum Theory from Information-Theoretic Principles.

22. The 2nd Seefeld Workshop on Quantum Information Theory
June 29-July 4.7.2014, Seefeld, Tirol (Austria),
Invited talk:
Efficient quantum devices at the Heisenberg limit.

21. QPL 2014 Quantum Physics and Logic
June 4-6 2014, Kyoto (Japan),
Invited talk:
Pure, reversible and sharp: a tale of systems in interaction with their environment.

20. The Fourth Nagoya Winter Workshop on Quantum Information, Measurement, and Foundations (NWW2013)
February, 18-22 2013, Nagoya University (Japan),
Invited talk: *Optimal design and quantum benchmarks for coherent state amplifiers.*

19. QCQIP'2012 International Workshop on Quantum Computing and Quantum Information Processing 2012
August 30-September 2, 2012, Academy of Mathematics and Systems Science (AMSS), Beijing (China),
Invited talk: *Optimal quantum teleportation in the absence of a shared reference frame.*

18. The dIX International Colloquium on Group-Theoretical Methods in Physics
August 20-26, 2012 Chern Institute of Mathematics Tianjin (China),
Invited talk: *Can we teleport a quantum clock? Fundamental limits to the use of entanglement to simulate quantum communication.*

17. Natural/Unconventional Compution and Its Philosophical Significance
AISB/IACAP World Congress 2012 in honour of Alan Turing, 2-6 July 2012, Birmingham (UK),
Invited talk: *Quantum Theory, namely the Pure and Reversible Theory of Information.*

16. Quantum Information Workshop 2012
Chinese University of Hong Kong, 18-22 June 2012, Hong Kong (China)
Invited talk:
Parallelization and Factorization in Quantum Metrology.

15. Theory Canada 7, Meeting of the Division of Theoretical Physics of the Canadian Association of Physicists
7-9 June 2012, Lethbridge (Canada)
Invited talk:
Quantum Theory from Quantum Information.

14. Pécs Workshop on Quantum Information and Quantum Optics
28-30 May 2012, Pécs (Hungary)
Invited talk: *Parallelization and Factorization Theorems in Quantum Metrology.*

13. Tsinghua-Aarhus Workshop on Quantum Information Science
21-25 May, Tsinghua University, Beijing (China)
Invited talk: *Quantum Theory: the Pure and Reversible Theory of Information.*

12. *Bellairs Workshop on Quantum Foundations*
Barbados, March 31-April 7 2012,
Invited talk:
Introduction to operational-probabilistic theories.

11. The third Nagoya Winter Workshop on Quantum Information, Meausurement, and Foundations
    14-18 February 2012, Nagoya University (Japan),
    Invited talk: *Quantum superposition of causal structures and probabilistic simulation of quantum channels backward in time.*

10. Quantum Foundations in the Light of Quantum Information III
    December 6-9 2011, Montréal (Canada),
    Invited talk: *Quantum Theory, with less causality.*

9. The 2011 March Meeting of the American Physical Society
    March 21-25 2011, Dallas (US),
    Invited talk:
    Toward a Conceptual Foundation of Quantum Information Processing.

8. The Second Nagoya Winter Workshop on Quantum Information, Measurement, and Foundations
    February 14-18 2011, Nagoya (Japan),
    Invited talk: *General theories of information-processing: basic framework and key principles.*

7. Fundamentals of Physics and Information
    June 8-11 2010, ETH Zürich (Switzerland),
    Invited talk: *Purity and reversibility as a paradigm for Quantum Information Processing.*

6. The Nagoya Winter Workshop on Quantum Information, Measurement, and Foundations
    February 18-24 2010, Nagoya (Japan),
    Invited talk: *Probabilistic theories with purification.*

5. Cambridge Summer Workshop on Quantum information theory with correlated and finite resources
    July 6-8 2009, Cambridge (UK)
    Invited talk: *Dilation of physical processes in general probabilistic theories.*

4. DEX-SMI Workshop on Quantum Statistical Inference 2009
    March 2-4 2009, National Institute for Informatics (Tokyo, Japan),
    Invited talk: *Optimal quantum learning and multiround reference frame alignment.*

3. *GIQ Workshop 2009*
    February 4-6 2009, Universitat Autònoma de Barcelona (Spain),
    Invited talk: *Optimal quantum networks with symmetry.*

2. GSIS & DEX-SMI Workshop on Quantum statistical inference and entanglement
    February 11-12 2008, Sendai (Japan),
    Invited talk: *Optimal cloning of quantum channels.*

1. Workshop on Reference Frames and Superselection Rules
    Perimeter Institute, July 12-16 2004, Waterloo (Canada),
    Invited talk: *Maximum Likelihood and Efficient Use of Quantum Resources in the Alignment of Reference Frames*.

Talks at International Schools

3. PhD Summer School in Quantum Technologies,
   September 13 -17, 2021, Università di Napoli/Università di Camerino (Italy), online,
   talk: *Quantum superpositions of causal orders.*

2. Young Researchers Forum on Quantum Information Science 2020,
   August 24-26 2020, National Tsing Hua University, Hsinchu (Taiwan),
   talk: *Quantum superpositions of causal orders.*

1. *Summer School on "Frontiers of Quantum Information Science"*,
   August 20-22 2012, Tsinghua University, Beijing (China),
   talk: *Quantum theory from information-theoretic principles.*

Panel Discussions

5. Hoi-Kwong Lo, **Giulio Chiribella**, Guo-Feng Zhang, and Bei Zeng (moderator),
   panel discussion: *What is the future of Quantum Technologies?*,
   in Quantum Technology Awareness Symposium,
   October 14 2022, Hong Kong Science Park Grand Hall (China).

4. Adán Cabello, **Giulio Chiribella**, and Lidia del Rio,
   panel discussion: *Reconstructions and No-Go Theorems*,
   in Workshop on Participatory Realism,
   June 6-8, 2017, Stellenbosch Institute for Advanced Study (South Africa).

3. Gerhard T'Hooft, Lucien Hardy, Caslav Brukner, Robert Spekkens, **Giulio Chiribella**, and Lluis Masanes,
   panel discussion: *Information-Theoretic Axiomatizations of Quantum Theory*,
   in Information Theoretic Foundations for Physics,
   May 11-15 2015, Perimeter Institute For Theoretical Physics, Waterloo (Canada).

2. Jonathan Oppenheim, Ariel Caticha, Howard Barnum, **Giulio Chiribella**, and David Jennings,
   panel discussion:
   Information Theory and Thermodynamics
   in Information Theoretic Foundations for Physics,
   May 11-15 2015, Perimeter Institute For Theoretical Physics, Waterloo (Canada).

1. Allan Solomon, Gerald Goldin, Jean-Pierre Gazeau, Mark Trodden, and **Giulio Chiribella**,
   panel discussion: *New directions of group theory in physics and education*,
   in The 28th International Colloquium on Group-Theoretical Methods in Physics,
   Northumbria University 26-30th July 2010.

Colloquia

9. *Quantum communication and quantum metrology with indefinite causal order*
   Yunnan Key Laboratory of Quantum Information, Yunnan University, online,
   July 13 2022.

8. *Optimal programming of unitary gates*
   Team-Net Quantum Computing Colloquium (Warsaw, Poland), online,
   June 22 2022.

7. *A second-quantized Shannon theory*
University of Vienna/Technical University of Vienna (Austria),
March 5 2019.

6. *Quantum Superreplication*
Department of Applied Mathematics, Hanyang University (Korea),
October 7 2015.

5. *Using quantum mechanics to find directions in space*
Department of Physics, Zhejiang University (China)
February 13 2015.

4. *Information-theoretic axioms for quantum theory*
Beihang Mathematics Forum, Beihang University (China)
October 29 2014.

3. *Quantum Replication at the Heisenberg Limit*
Institute for Quantum Computing, Waterloo (CA)
May 28 2013.

2. *Quantum measurement theory: from quantum states to quantum networks*
Pacific Institute of Mathematics Seminar, Department of Mathematics, University of Saskatchewan (Saskatoon, CA)
November 3rd 2010.

1. *A complete set of informational principles for quantum theory*
Institute for Quantum Computation (Waterloo, CA)
March 7 2011.

Contributed Talks at International Conferences

22. The 34nd International Colloquium on Group Theoretical Methods in Physics (Group32), July 18-22 2022, Strasbourg (France),
contributed talk *"Optimal Programming of Quantum Gates"*.

21. The 32nd International Colloquium on Group Theoretical Methods in Physics (Group32), July 9-13 2018, Prague (Czech Republic),
contributed talk *"Optimal Compression for Quantum Population Coding"*.

20. 15th International Conference on Quantum Physics and Logic QPL 2018, June 3-7, 2018, Halifax (Canada),
contributed talk *"Agents, Subsystems, and the Conservation of Information"*.

19. 20th Annual Conference on on Quantum Information Processing (QIP 2017), January 16-20 2017, Seattle (USA),
contributed talk Optimal Compression for Identically Prepared Qubits.

18. *12th Intl. Conference on Quantum Communication, Measurement and Computing*, November 2-6 2014, Hefei (China),
contributed talk *"Quantum replication at the Heisenberg limit"*.

17. *Noise, Information and Complexity at the Quantum Scale*, October 7-11 2013, Erice (Italy),
contributed talk *"Quantum replication at the Heisenberg limit"*.

16. *Quantum Physics and Logics 2013*, July 17-19 2013, ICFO Barcelona (Spain),
contributed talk *"From quantum pictures to quantum correlations"* .

15. *The Eighth Conference on the Theory of Quantum Computation, Communication and Cryptography*, May 21-23 2013, Guelph (Canada),
contributed talk *"How many copies are needed for gate discrimination?"*.

14. *The Seventh Conference on the Theory of Quantum Computation, Communication and Cryptography*, May 17-19 2012, Tokyo (Japan),
contributed talk *"Parallelization and Factorization Theorems in Quantum Metrology"*.

13. *The March Meeting of the American Physical Society*, February 27-March 2 2012, Boston (US),
contributed talk *"Quantum controlled paths for perfect discrimination of no-signalling channels"*.

12. *16th U.K. and European Meeting on the Foundations of Physics*, July 5-7 2010, Aberdeen (UK),
contributed talk *"Purity and reversibility at the foundation Quantum Information Processing"*.

11. *The fifth Conference on the Theory of Quantum Computation, Communication and Cryptography*, April 13-15 2010, Leeds (UK),
contributed talk *"Optimal pure state estimation as a randomized universal cloning"*

10. *International Conference on Quantum Information Processing and Communication*, September 21-25 2009, Roma (Italy)
contributed talk, *"Optimal storing and retrieving of unitary transformations"*.

9. *Italian Quantum Information Conference 2008*, October 24-29 2008, Camerino (Italy),
contributed talk *"On quantum clocks and gyroscopes"*.

8. *XL Jubilee Symposium on Mathematical Physics: Geometry and Quanta*, June 25-28 2008, Toruń (Poland),
contributed talk *"Asymptotic cloning, state estimation, and the finite versions of quantum de Finetti Theorem"*.

7. Workshop on *Mathematical Methods in Quantum Mechanics*, February 26-March 3 2007, Bressanone (Italy),
contributed talk *"The quantum versions of de Finetti theorem as the bridge between quantum cloning and state estimation"*.

6. *QAP Focus Meeting: Quantum state and process estimation*, September 27-October 1 2006, Budmeriče (Slovakia),
contributed talk *"Quantum information becomes classical when ditributed to many users"*.

5. *Quantum Probability, Information and Control Symposium*, July 15-22 2006, Nottingham (UK),
contributed talk: *"How fast quantum cloning converges to quantum state estimation?"*.

4. *dXVIII Symposium on Mathematical Physics: Entanglement and Geometry*, June 4-7 2006, Toruń (PL),
contributed talk *"Optimal use of entanglement in the estimation of an unknown group transformation"*.

3. International Workshop on Quantum Information,
Max Plank Institut für Physik komplexer Systemen, Dresden (Germany), September 25-30 2005;

contributed talk *"Optimal Estimation of Group Transformations using Entanglement"*

2. *YEP Meeting 2004*,
Budmerice (Slovakia), November 30 - December 4^{th} 2004;
contributed talk *"Absolute Alignment of Reference Frames using Quantum Systems"*

1. *Workshop: Quantum Statistics–Quantum Measurements, Estimation, and Related Topics*,
Newton Institute, Cambridge (UK), November 15-19 2004;
contributed talk *"Extremal Covariant POVMs"*.

Invited Seminars

49. QISS Seminar, September 30 2021,
"Quantum operations with indefinite time direction".

48. Centre for Quantum Technologies, NUS Singapore, May 8 2018,
CQT Talk "A second-quantized Shannon theory".

47. Perimeter Institute for Theoretical Physics, April 24 2018,
Quantum Foundations Series "A second-quantized Shannon theory"

46. School of Physics, University of Bristol, March 21 2018,
"A Shannon-theoretic advantage of indefinite causal order".

45. Department of Philosophy, University of Oxford, January 25 2018,
Philosophy of Physics Seminar "The purification principle"

44. Centre for Quantum Information and Foundations, University of Cambridge (UK),
November 30 2018,
"The information theoretic content of quantum sources".

43. Department of Computer Science, University of Oxford, November 24 2017,
OASIS seminar *"The information theoretic content of quantum sources".*

42. Department of Physics, ETH Zürich (Switzerland), December 1^{st} 2016,
"Quantum causal networks".

41. Department of Computer Science, University of Oxford (UK), November 25^{th} 2016,
"Quantum networks: theory and applications".

40. Universitat Autònoma Barcelona (Spain),
March 25^{th} 2015,
"Superactivation of quantum reference frames".

39. Department of Physics, University of Pavia, (Italy),
February 10^{th} 2015,
"Super-activation of quantum reference frames".

38. Perimeter Institute for Theoretical Physics, Waterloo (Canada),
November 27^{th} 2014,
"Purity without probability".

37. Beijing Computational Science Research Center, Chinese Academy of Engineering (Beijing),
November 19^{th} 2014,
"Quantum replication at the Heisenberg limit".

36. Academy of Mathematics and Systems Science, Chinese Academy of Mathematics (Beijing),
September 24$^{\text{th}}$ 2014,
"Quantum state transformation games".

35. Graduate School of Information Science, Nagoya University
June 3$^{\text{nd}}$ 2014,
"Quantum theory, namely where physics and information meet".

34. Universitat Politècnica de Catalunya (Spain),
March 27$^{\text{th}}$ 2014,
"Copying data at the quantum scale: fundamental limitations and ultimate performances".

33. Universitat Autònoma Barcelona (Spain),
March 26$^{\text{th}}$ 2014,
"Measurement sharpness trims nonlocality and contextuality in every probabilistic theory".

32. University of Hong Kong (CHN),
February 18$^{\text{th}}$ 2014,
"Copying data at the quantum scale: fundamental limitations and ultimate performances".

31. University of Padova (Italy),
January 30$^{\text{th}}$ 2014,
"Quantum Replication at the Heisenberg Limit".

30. University of Pavia (Italy),
January 17$^{\text{th}}$ 2014,
"Quantum Replication at the Heisenberg Limit".

29. University of Hong Kong (CHN),
October 4$^{\text{th}}$ 2013,
"Quantum Replication at the Heisenberg Limit".

28. University of Zhejiang (CHN),
September 18$^{\text{th}}$ 2013,
"Quantum Information Amplifiers".

27. Universitat Autonòma de Barcelona (Spain),
July 16$^{\text{th}}$ 2013,
"Quantum Information Amplifiers".

26. International Center for Quantum Matter, Peking University (CHN),
June 18$^{\text{th}}$ 2013,
"Amplifying quantum information".

25. Academy of Mathematics and System Sciences, Chinese Academy of Sciences (CHN),
June 17$^{\text{th}}$ 2013,
"Optimal design and quantum benchmarks for coherent state amplifiers."

24. Academy of Mathematics and System Sciences, Chinese Academy of Sciences (CHN),
December 11$^{\text{th}}$ 2012,
"A complete set of information-theoretic axioms for Quantum Theory."

23. Institute of Theoretical Computer Science and Communications, Chinese University of Hong Kong (CHN),
August 9th 2012,
"Can we teleport a quantum clock? Fundamental limits to the use of entanglement to simulate quantum communication."

22. Department of Mathematics and Statistics, University of Guelph (CA),
April 11th 2012,
"Parallelization and Factorization in Quantum Metrology".

21. Perimeter Institute for Theoretical Physics, Waterloo (CA),
March 6th 2012,
"Quantum Switches and Impossible Time Travels".

20. Institute for Interdisciplinary Information Sciences, Tsinghua University, Beijing (CHN),
December 27th 2011,
"Quantum Circuits Architecture".

19. The City University of New York (US), September 1st 2011,
"Optimal processing of quantum transformations: quantum learning and information-disturbance trade-off".

18. Université de Montréal (CA), May 4th 2011,
"Quantum Theory, namely where information and physics meet".

17. University College London (UK), January 24th 2011,
"Quantum theory from informational axioms".

16. Center for Mathematical Sciences, University of Cambridge (UK), January 20th 2011,
"An informational derivation of Quantum Theory".

15. Computing Laboratory, University of Oxford (UK), January 18th 2011,
"A portrait of quantum mechanics as a new theory of information processing".

14. Universitat Autonòma Barcelona (Spain), January 13th 2011,
"A portrait of quantum mechanics as a new theory of information processing".

13. University of Saskatchewan (Saskatoon, CA), PIMS Applied Mathematics Seminar Series, November 2nd 2010,
"Optimal Estimation of Quantum Signals in the Presence of Symmetry".

12. Institute for Quantum Information Science, University of Calgary (CA), October 26th 2010,
"Optimal quantum learning of an unknown unitary transformation and multiround reference frame alignment".

11. Imperial College London (UK), June 15th 2010,
"Towards a conceptual foundation of Quantum Information Processing".

10. Computing Laboratory, University of Oxford (UK), April 20th 2010,
"Probabilistic theories with purification".

9. Center for Mathematical Sciences, University of Cambridge (UK), March 4th 2010,
"Probabilistic theories with purification".

8. Perimeter Institute for Theoretical Physics, Waterloo (Canada),
February 2nd 2010,
"Purity and reversibility as a paradigm for Quantum Information Processing."

7. University of Nagoya (Japan), March 9$^{\text{th}}$ 2009,
   "Learning an unknown unitary transformation".

6. *Young Researchers Conference 2008*, Perimeter Institute for Theoretical Physics, Waterloo (Canada), December 8-12 2008,
   "Admissible transformations of quantum networks and their applications in quantum information processing".

5. ERATO Project (Tokyo, Japan), February 18$^{\text{th}}$ 2008;
   "Optimal cloning of a secret quantum algorithm".

4. University of Camerino (Italy), December 12$^{\text{th}}$ 2007,
   "About the quantum-classical boundary in quantum information processing".

3. Institut für angewandte Mathematik der Universität Bonn (Germany), May 4^{th} 2006,
   "Covariant strategies for the optimal estimation of unitary transformations".

2. ERATO Project (Tokyo, Japan), 26$^{\text{th}}$ July 2005;
   "Optimal Estimation of Group Transformations using Entanglement"

1. Université Libre de Bruxelles (Belgium), November 22^{th} 2004;
   "Extremal Covariant Maps and Optimal Cloning of two Mutually Unbiased Bases"

Academic service

- August 2022-present, Member of Academic Advisory Board on IT Reform, The University of Hong Kong.
- July 2022-June 2025, Member of Science, Technology and Big Data AoI of the Common Core Program, The University of Hong Kong.
- January 2022, External Assessor for faculty hiring, Chinese University of Hong Kong.
- September 2021-present, Member of University Task Force on Teaching and Learning (Undergraduate Research), The University of Hong Kong.
- June 2021-present, Chair of Departmental Research Postgraduate Committee, Department of Computer Science, The University of Hong Kong.
- May 2021-present, Member of University Task Force on Research Administration, The University of Hong Kong.
- July 2019-present, Associate Department Head (Research), Department of Computer Science, The University of Hong Kong.
- July 2019-present, Chair of Departmental Research Committee, Department of Computer Science, The University of Hong Kong.
- May 2019-June 2021, Member of Departmental Postgraduate Committee, Department of Computer Science, The University of Hong Kong.
- May 2019, External Assessor for faculty appointment, National University of Singapore.
- August 2018-present, Group Leader, Foundations of Computer Science Research Group, Department of Computer Science, The University of Hong Kong.

- October 2018, Member of the Review Panel of the Center for Theoretical and Computational Physics, The University of Hong Kong.
- May 2018-present, Member of the Engineering Research Fund Committee of Management, The University of Hong Kong.
- March 2018-present, Member of the Departmental Advisory Committee, Department of Computer Science, The University of Hong Kong.
- March 2018-September 2018, Assessor for Undergraduate Projects, Department of Computer Science, University of Oxford.
- October 2017-September 2018, Selection Committee Member, Masters Program in Computer Science, University of Oxford.
- October 2017-September 2018, Graduate Adviser (Computer Science), St Hilda's College, University of Oxford.
- October 2017-September 2018, MSc Supervisor (Computer Science), Department of Computer Science University of Oxford.
- August 2016-September 2017, Faculty Academic Advisor, Faculty of Engineering, The University of Hong Kong.
- Assessment Committee Member for postdoctoral fellowships in Computer Science at the Tsinghua-Aarhus Center for Interactive Computation (CTIC).
- QIP Local Arrangements Chair and Committee Member in charge of assigning travel grants to international students on behalf of IIIS, Tsinghua University. 32 students funded for a total amount of 21K USD.
- 2013 Examination Committee Chair for undergraduate theses in Physics at IIIS, Tsinghua University.
- 09/2012-08/2015, Co-Chair of the Committee on Graduate Education of IIIS, Tsinghua University.
- 09/2012-08/2015, Member of the Staffing Committee of IIIS, Tsinghua University.
- 09/2010-05/2012 Member of the Library Committee at Perimeter Institute
- 09/2011-05/2012 Member of the Art and Culture Committee at Perimeter Institute

Community service

- Public lecture: *The quantum revolution: from foundations to technologies*
  Talk Series on Emerging Technologies 2022
  Organized by The Hong Kong Academy for Gifted Education, in collaboration with the Hong Kong Young Academy of Sciences,
  November 26 2022.

- Public lecture: *Causes and Effects in the Microscopic World*
  HKU InnoWing Tech Talk
  Organized by Tam Wing Fan Innovation Wing, The University of Hong Kong,
  November 10 2022.

- Keynote talk: *The quantum internet: where quantum computing meets quantum communication*
  Quantum Hong Kong Symposium
  Organized by The Hong Kong Productivity Council,
  October 14 2022.

- Lecture: *Quantum cryptography at QICI Quantum Information and Computation Initiative, The University of Hong Kong*
  Quantum Technology Awareness Promotion Programme in HK and GBA
  Organized by The Hong Kong Productivity Council,
  September 30 2022.

- Since Jan 2022, Mentor in Mentorship Programme
  Distinguished Master, Accomplished Students
  Organized by The Hong Kong Academy of Sciences/The Hong Kong Young Academy of Sciences.

- Panelist at webinar Hong Kong: Hub of Opportunities in Career and Entrepreneurship that You Never Imagined
  Co-organized by InvestHK and Hong Kong Economic and Trade Office,
  December 1 2021.

- H. Kristjánsson, R. Gardner, and G. Chiribella,
  Quantum communication report (published on July 28 2021),
  commissioned by Ofcom, the UK's communication regulator.

- Public lecture: *Quantum information: from foundations to technologies*
  Internet Economy Summit 2019
  Hong Kong Convention and Exhibition Centre, April 16 2019.

- Research overview: *Quantum communication networks for ultraprecise sensing and secure data transmission*
  Huawei and University of Hong Kong Workshop,
  December 5, 2018, The University of Hong Kong.

- Research overview *Quantum communication with indefinite order*,
  May 16$^{\text{th}}$, 2018, Waterloo Biomedical Research and Innovation Node in Hong Kong (WBRIN), Cordis Hotel, Hong Kong.
  Networking event aimed at creating links between Waterloo University and Hong Kong Universities.

- Public lecture *The quantum information revolution*,
  March 26$^{\text{th}}$, 2018, Cafe Scientifique Hong Kong.

- Public lecture *Computer science meets philosophy*,
March 14th, 2018, Mathematical Institute, Oxford.
Outreach lecture targeting high school students.

- Public lecture *Computer quantistici: tra tecnologia e fondamenti*,
December 22nd, 2018, National Virgilian Academy of Sciences, Letters, and Arts, Mantova, Italy.
Press release: Chiribella svela i qubit e i computer del futuro,
Gazzetta di Mantova, December 23rd, 2017.

- Public lecture *Quando l'informazione diventa quantistica*, December 19th 2017.
Civico Planetario di Modena, Modena, Italy.
Youtube link

- Research overview *Quantum Information, Foundations, and Technologies*
Engineering Faculty, The University of Hong Kong,
December 16th 2016,
presentation given to a delegation from Lenovo.

- Public lecture Quando l'informazione diventa quantistica: un breve storia di macchine impossibili, giochi e super-computers, January 29th 2015.
Public event organized by the Accademia Nazionale Virgiliana (National Virgilian Academy), targeting high school students.
Press release: In scena la sinfonia informatica del professor Giulio Chiribella,
Gazzetta di Mantova, January 30 2015.

- 06/2014 Author of celebratory piece in the occasion of the 350th anniversary of Italian newspaper Gazzetta di Mantova.

- Instructor at the Workshop Conceptual Gems in Theoretical Physics, Perimeter Institute, October 14th 2011
The workshop was aimed at introducing artists to some of the most fruitful concepts in modern theoretical physics, with an emphasis on concepts that are infrequently discussed in public discussions.
Invited talk: The Pure and Reversible Pictures of Quantum Mechanics.

In the news

40. *How Quantum Physicists 'Flipped Time' (and How They Didn't)* Quanta, Jan 27 2023.

39. *'Quantum time flip' makes light move simultaneously forward and backward in time*
LiveScience, Dec 8 2022.

38. *'Quantum trick sees light move forwards and back in time simultaneously*
NewScientist, Nov 10 2022.

37. *Physicists Rewrite the Fundamental Law That Leads to Disorder*
Quanta, May 27 2022.

36. *Quantum Mischief Rewrites the Laws of Cause and Effect*
Quanta, March 11 2021.

35. *Finding Causes and Effects*
HKU Faculty of Engineering News, October 14 2019.

34. *Quantum Mechanics Speeds Up Discovery of Cause and Effect*
HKU Vice-President (Research) Pick, June 5 2019.

33. *Physicists propose a second level of quantization for quantum Shannon theory*
Phys.org, May 22 2019.

32. *Facebook and Amazon's AI-selected ads show how businesses can tailor products to consumers in future*
South China Morning Post, April 15 2019.

31. *Benvenuti nel mondo dei quanti: qui il prima e il dopo non esistono*
Repubblica, September 5, 2018.

30. *Prima o dopo? Per la fisica quantistica non hanno senso*
Repubblica.it, August 23, 2018.

29. *A new quantum device defies the concepts of 'before' and 'after'*
ScienceNews, August 21, 2018.

28. *Prima l'uovo o la gallina? Il test che 'riscrive' la domanda*
Ansa.it, August 20, 2018.

27. *Quantum chicken-or-egg experiment blurs the distinction between before and after*
Science, August 17, 2018.

26. *A Quantum Way to Synchronize Atomic Clocks*
InsideScience, June 26, 2018.

25. *Quantum stopwatch stores time in a quantum memory*
Phys.org, June 5 2018.

24. *Best stopwatch is powered by quantum jiggles*
NewScientist, June 2 2018.

23. *Quantum stopwatch could be the best in the universe*
NewScientist, May 23 2018.
Cover page.

22. *For identical quantum channels, order matters*
Phys.org, April 9 2018.

21. *Causality in a quantum world*
Physics Today, March 18 2018.

20. *Prof Giulio Chiribella: exploring the fundamentals of quantum mechanics*
Croucher Foundation News, March 15 2018.

19. *Three scientists receive 2018 Croucher Research Fellowship*
Asian Scientist, December 13 2017.

18. *Rebuilding Quantum Theory from Scratch*
NextBigFuture, September 4 2017.

17. *Quantum Theory Rebuilt From Simple Physical Principles*
Quanta, August 30 2017.

16. *How quantum trickery can scramble cause and effect*
Nature, June 28 2017.

15. *Book review: Quantum Theory from First Principles*
Quantum Times, July 11 2017.

14. *Navigating the crossroads of quantum information and quantum foundations*
Inside the Perimeter, January 31 2017.

13. *HKU Quantum Scientist Becomes Asia's First CIFAR-Azrieli Global Scholar*
Asian Scientist, December 1 2016.

12. *Taking statistics to the quantum domain*
Phys.org, November 6 2016.

11. *The rise of the physics powerhouse*
Physics World, September 2016
see also the Physic World Blog China 101.

10. *Quantum process demonstrates superposition of ordered events*
Phys.org, November 4 2015.

9. *Quantum purity:*
How the big picture banishes weirdness
NewScientist, 8 April 2015.
Cover page.

8. *Purifying Physics: The Quest to Explain Why the "Quantum" Exists*
FQXi News, February 9 2015.

7. *Cheating the Causal Game*
FQXi News, October 16 2012.

6. *Perimeter Institute Scientists Awarded*
Computer Scotland, May 19 2012

5. *Bits of reality*
Science News, March 23 2012.

4. *Quantum physics axioms back Wheeler's It From Bit*
Science News, Letter from the Editor in Chief,
August 13 2011.

3. Quantum theory gets physical
Science News, 19 July 2011.

2. *Questioning the rules of the game*
Časlav Brukner, Physics, July 11 2011.

1. *2010 Hermann Weyl Prize awarded to PI postdoctoral researcher Giulio Chiribella*,
Inside the Perimeter, June 15 2010.

Other Interests

Before entering academia I studied classical piano.
Here are a few highlights from my musical career:

- Diploma in Piano at Conservatory "L. Campiani", Mantova, Italy,
obtained on 26th June 2001 *cum laude* and with academic mention
- first prize winner at the National Piano Competition "Marco Bramanti" 1996
- first prize winner at the National Piano Competition "Città di Cesenatico" 1998
- third prize at the International Piano Competition "Città di Stresa" 1994

- special mention at the national competition of Società Umanitaria di Milano, edition 1998.
- Selected by the Conservatory "L. Campiani" to perform Mozart Piano Concerto K415. The performance took place in June 2001 at Teatro Bibiena, Mantova.